

Application No.: 10/759,841

Docket No.: 023004.0104N3US

RECEIVED  
CENTRAL FAX CENTER

DEC 29 2006

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-65. (Cancelled)

66. (Previously Presented) A synthetic genetic construct which is capable of delaying, repressing or otherwise reducing the expression of a target gene in an animal cell which is transfected with said genetic construct,

wherein said genetic construct comprises two copies of a structural gene sequence connected in a head-to-head, head-to-tail or tail-to-tail orientation relative to each other, operably linked to a terminator sequence which contains a polyadenylation signal and is active in the cell,

wherein said structural gene sequence comprises a nucleotide sequence which is substantially identical to a region of said target gene,

wherein said two copies of said structural gene sequence are placed operably under the control of a single promoter sequence which is operable in said cell, where in at least one copy of said structural gene sequence is placed operably in the sense orientation under the control of said promoter sequence, wherein said two copies of said structural gene sequence are separated by a stuffer fragment which comprises a sequence of nucleotides;

and wherein said terminator sequence is operably linked to said two copies of said structural gene sequence.

67. (Previously Presented) A synthetic genetic construct which is capable of delaying, repressing or otherwise reducing the expression of a target gene in an animal cell which is transfected with said genetic construct,

Application No.: 10/759,841

Docket No.: 023004.0104N3US

wherein said genetic construct comprises two copies of a structural gene sequence connected in a head-to-head, head-to-tail or tail-to-tail orientation relative to each other, and two terminator sequences each of which contains a polyadenylation signal and is active in the cell,

wherein each copy of said structural gene sequence is separately placed under the control of a promoter which is operable in said cell and one of said terminator sequences, and

wherein said structural gene sequence comprises a nucleotide sequence which is substantially identical to a region of said target gene,

wherein at least one copy of said structural gene sequence is placed operably in the sense orientation under the control of an individual promoter sequence;

and wherein said two copies of said structural gene sequence are separated by a stuffer fragment which comprises a sequence of nucleotides.

68. (Currently Amended) The ~~isolated~~ synthetic genetic construct of claim 66,

wherein at least one other copy of said structural gene sequence is placed operably in the antisense orientation under the control of said promoter sequence.

69. (Currently Amended) The ~~isolated~~ synthetic genetic construct of claim 67,

wherein at least one other copy of said structural gene sequence is placed operably in the antisense orientation under the control of another individual promoter sequence.

70. and 71. (Cancelled).

Application No.: 10/759,841

Docket No.: 023004.0104N3US

72. (Currently Amended) The ~~isolated~~ synthetic genetic construct according to claim 66, having only two copies of said structural gene sequence.

73. (Currently Amended) The ~~isolated~~ synthetic genetic construct according to claim 68, wherein said region of the target gene is 30 nucleotides long.

74. (Currently Amended) The ~~isolated~~ synthetic genetic construct according to claim 68, wherein said structural gene sequence comprises a nucleotide sequence that is identical to said region of said target gene.

75. (Previously Presented) A method of delaying or repressing the expression of a target gene in an animal cell, comprising transfecting said animal cell with the genetic construct of claim 66.

76. (Previously Presented) The method according to claim 75, wherein at least one other copy of said structural gene sequence is placed operably in the antisense orientation under the control of said promoter sequence.

77. and 78. (Cancelled).

79. (Previously Presented) The method according to claim 76, wherein said genetic construct has only two copies of said structural gene sequence.

Application No.: 10/759,841

Docket No.: 023004.0104N3US

80. (Previously Presented) The method according to claim 76, wherein said region of the target gene is 30 nucleotides long.

81. (Cancelled).

82. (Previously Presented) An animal cell comprising the genetic construct according to claim 66.

83-114 (Cancelled)

115. (Previously Presented) The genetic construct of claim 68, wherein the target gene is a viral gene

116. (Previously Presented) The genetic construct of claim 115, wherein the viral gene encodes a DNA polymerase, RNA polymerase or viral coat protein.

117. (Previously Presented) The genetic construct of claim 68, wherein the target gene is from a lentivirus.

118. (Previously Presented) The genetic construct of claim 68, wherein the target gene is from an immuno deficiency virus.

119. (Previously Presented) The genetic construct of claim 68, wherein the target gene is from a single-stranded (+) RNA virus.

Application No.: 10/759,841

Docket No.: 023004.0104N3US

120. (Previously Presented) The genetic construct of claim 68, wherein the target gene is from a double-stranded DNA virus.

121. (Previously Presented) The genetic construct of claim 68, wherein the target gene is a transgene in the animal cell.

122. (Previously Presented) The genetic construct of claim 68, wherein the target gene is an endogenous gene of the animal cell.

123. (Previously Presented) The genetic construct of claim 68, wherein the region of the target gene corresponds to a coding region of the target gene.

124. (Previously Presented) The genetic construct of claim 68, wherein the region of the target gene corresponds to a 5'- or 3'- untranslated sequence of the target gene.

125. (Previously Presented) The genetic construct of claim 68, wherein the transcribed region of the genetic construct comprises an intron.

126. (Previously Presented) The genetic construct of claim 68, wherein the stuffer fragment is a sequence of nucleotides 10-50 nucleotides in length, 50-100 nucleotides in length, or 100-500 nucleotides in length.

Application No.: 10/759,841

Docket No.: 023004.0104N3US

127. (Previously Presented) The genetic construct of claim 68, wherein the stuffer fragment comprises an intron.

128. (Previously Presented) The genetic construct of claim 68, wherein the total length of said structural gene sequences is no more than 2.0 kilobases.

129. (Previously Presented) The genetic construct of claim 128, wherein the total length of said structural gene sequences is no more than 0.5 kilobases.

130. (Previously Presented) The genetic construct of claim 68, wherein the two copies are in a head-to-head orientation relative to each other.

131. (Previously Presented) The genetic construct of claim 68, wherein the two copies are in a tail-to-tail orientation relative to each other.

132. (Previously Presented) The genetic construct of claim 68, wherein the two copies are identical in sequence.

133. (Previously Presented) The genetic construct of claim 68, wherein the two copies are not identical in sequence.

134. (Previously Presented) The genetic construct of claim 68, which is in a cell.

135. (New) The genetic construct of claim 68, which is in a virus particle.

Application No.: 10/759,841

Docket No.: 023004.0104N3US

136. (Previously Presented) The genetic construct of claim 68, which is in a liposome.

137. (Previously Presented) The genetic construct of claim 134, which is integrated into the genome of the cell.

138. (Previously Presented) An animal cell, comprising the genetic construct of claim 68.

139. (Previously Presented) The animal cell of claim 138, wherein the target gene is a viral gene.

140. (Previously Presented) The animal cell of claim 139, wherein the viral gene encodes a DNA polymerase, RNA polymerase or viral coat protein

141. (Previously Presented) The animal cell of claim 138, wherein the target gene is from a lentivirus.

142. (Previously Presented) The animal cell of claim 138, wherein the target gene is from an immuno deficiency virus.

143. (Previously Presented) The animal cell of claim 138, wherein the target gene is from a single-stranded (+) RNA virus.

Application No.: 10/759,841

Docket No.: 023004.0104N3US

144. (Previously Presented) The animal cell of claim 138, wherein the target gene is from a double-stranded DNA virus.

145. (Previously Presented) The animal cell of claim 138, wherein the target gene is a transgene in the animal cell.

146. (Previously Presented) The animal cell of claim 138, wherein the target gene is an endogenous gene of the animal cell.

147. (Previously Presented) The animal cell of claim 138, wherein the region of the target gene corresponds to a coding region of the target gene.

148. (Previously Presented) The animal cell of claim 138, wherein the region of the target gene corresponds to a 5'- or 3'- untranslated sequence of the target gene.

149. (Previously Presented) The animal cell of claim 138, wherein the transcribed region of the genetic construct comprises an intron.

150. (Previously Presented) The animal cell of claim 138, wherein the stuffer fragment is a sequence of nucleotides 10-50 nucleotides in length, 50-100 nucleotides in length, or 100-500 nucleotides in length.

151. (Previously Presented) The animal cell of claim 138, wherein the stuffer fragment comprises an intron.



Application No.: 10/759,841

Docket No.: 023004.0104N3US

152. (Previously Presented) The animal cell of claim 138, wherein the total length of said structural gene sequences is no more than 2.0 kilobases.

153. (Previously Presented) The animal cell of claim 152, wherein the total length of said structural gene sequences is no more than 0.5 kilobases.

154. (Previously Presented) The animal cell of claim 138, wherein the two copies are in a head-to-head orientation relative to each other.

155. (Previously Presented) The animal cell of claim 138, wherein the two copies are in a tail-to-tail orientation relative to each other.

156. (Previously Presented) The animal cell of claim 138, wherein the two copies are identical in sequence.

157. (Previously Presented) The animal cell of claim 138, wherein the two copies are not identical in sequence.

158. (Previously Presented) The animal cell of claim 138, which is integrated into the genome of the cell.

159. (Previously Presented) The animal cell of claim 138, wherein the promoter is heterologous with respect to the structural gene sequence.

Application No.: 10/759,841

Docket No.: 023004.0104N3US

160. (Previously Presented) The animal cell of claim 138, wherein the promoter is expressed before the commencement of detectable expression of the target gene in the cell.

161. (Previously Presented) The animal cell of claim 138, wherein the gene construct is expressed to produce a primary transcript which has a polyadenylate sequence added to the 3'-end.

162. (Currently Amended) An isolated animal cell, tissue or organ, comprising the genetic construct of claim 68.